



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4x60 BYPASS RATIO: 4.7
 UNIQUE ID NUMBER: 1PW057 PRESSURE RATIO (π_{00}): 30.7
 COMBUSTOR: Phase 3
 ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 266.9

REGULATORY DATA **** DATA SUPERSEDED **** SEE FOLLOWING UID FOR REVISED DATA: **12PW101**

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	7.7	42.6	63.1	12.4
AS % OF ORIGINAL LIMIT	39.3	36.1	62.2	68.3
AS % OF CAEP/2 LIMIT (NO _x)			77.8	
AS % OF CAEP/4 LIMIT (NO _x)			92.2	
AS % OF CAEP/6 LIMIT (NO _x)			104.5	
AS % OF CAEP/8 LIMIT (NO _x)			122.6	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.623	0.08	0.40	34.89	9.6
CLIMB OUT	85	2.2	2.075	0.08	0.52	26.34	6.8
APPROACH	30	4.0	0.686	0.15	1.74	12.53	0.7
IDLE	7	26.0	0.218	3.73	25.83	4.07	0.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			889	1324	9257	14505	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				5.0	34.7	54.4	9.6
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	102
TEMPERATURE (K)	270
ABS HUMIDITY (kg/kg)	0.0015

FUEL

SPEC	Jet A
H/C	1.91
AROM (%)	21

MANUFACTURER: Pratt & Whitney
 TEST ORGANIZATION: Pratt & Whitney
 TEST LOCATION: Middletown, CT
 TEST DATES: 15/01/1993-19/01/1993

NO_x REGULATION PARAGRAPH

x	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

REMARKS

- Data from X693-20 with Phase 3 reduced pressure loss combustor
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NO_x levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements: -

('x' if complies, 'PR' if pre-regulation, '-' if information is not available)